ONTARIO WATER RESOURCES COMMISSION

Water pollution survey Village of Vienna County of Elgin.

1964

# WATER POLLUTION SURVEY

# VILLAGE of VIENNA

County of Elgin

1964

ONTARIO

WATER RESOURCES COMMISSION

**REPORT**

# Ontario Water Resources Commission

Municipality Village OF Vienna, County of Elgin — Date of Inspection May 6, 1964.

Re: Pollution Survey of Surface Water Drain

Field Inspection by K. Ferris, Engineer's Assistant — Report by K. Ferris, B.A.Sc.

A sanitary survey of surface water drains in the Village of Vienna was made on May 6, 1964.

Information pertinent to the survey was provided by Mr.J. Petrie, Clerk-Treasurer, Village of Vienna. Mr.J. Alley, Public Health Inspector, Elgin-St.Thomas Health Unit assisted in the survey.

## GENERAL

The Village of Vienna has a population of 395, (Municipal Directory, 1964).

Septic tank systems are utilized generally for treatment of sanitary wastes throughout the village. The Big Otter Creek watercourse is the receiving stream for drainage from Vienna and the surrounding area.

## SAMPLING

Samples were collected from Big Otter Creek, upstream and downstream from Vienna, and at the outfalls to the creek of the local surface water drains.

The sampling points are designated on the accompanying map by mileage enumerations. The sanitary chemical and bacteriological analyses are listed on Tables 1 and 2 respectively.

INTERPRETATION OF LABORATORY ANALYSES

For convenience in the interpretation of laboratory analyses the following water quality objectives of the Ontario Water Resources Commission are listed:

1. Discharge from Storm Sewers and Surface Water Drains

5-Day BOD (Biochemical Oxygen Demand) - not greater than 15 parts per million

Suspended Solids - not greater than 15 parts per million

Total Coliforms (Membrane Filter Method) - not greater than 2400 per 100 millilitres

2. Objective for Receiving Watercourse

5-Day BOD (Biochemical Oxygen Demand) - not greater than 4 parts per million

Suspended Solids - not greater than 15 parts per million

Total Coliforms (Membrane Filter Method) - not greater than 2400 per 100 millilitres

The presence of anionic detergents is an indication of pollution from domestic sources.

DISCUSSION OF OUTFALL DISCHARGES

O 5.21 Chestnut St. Drain

The laboratory analyses indicated that at the time of inspection the discharge from this drain conformed to OWRC objectives.

O 4.62 Fulton St. Drain

The analyses of the discharge from this drain showed the presence of anionic detergents and an increased coliform count which indicates that inadequately treated domestic waste is being discharged into the surface water drain.

O 4.5A North East Drain at Highway No. 19 Bridge

The high coliform count in the analyses of a sample from this drain also indicates that domestic pollution may be present.

O 45B South West Drain at Highway No. 19 Bridge

The extremely high BOD, total coliform, and anionic detergent counts indicate the presence of a high level of pollution in the drain. Such pollution is most probably caused by the discharge of inadequately treated sanitary and other domestic wastes from private septic tank disposal systems.

O 4.35 Drain Outfall North of Central Pine Line Property

The high BOD, total coliform and anionic detergent counts of a sample from this drain also indicate pollution. The source of this pollution, as in drain O 4.5B is most probably from the discharge of inadequately treated sanitary sewage from private septic tank installations.

MEASURES FOR ABATEMENT OF POLLUTION IN SURFACE WATER DRAINS

It is usually found especially in smaller municipalities, that the bulk of pollution in surface water drains and storm sewers results from the discharge of inadequately treated wastes. It is a common practice to connect private drains from the overflow of septic tanks directly to the nearest surface water drain. This practice allows pollution to be discharged into the receiving watercourse which is illegal under Section 27 of the OWRC Act 1957.

Septic tank systems should be complete units with adequate tank capacities and field-tile distribution and disposal areas. There should not be any direct connections from such units to surface water drains or storm sewers.

WATER QUALITY OF PIG OTTER CREEK (VIENNA SECTION)

The analyses of water samples collected from Pig Otter Creek indicated a slight increase in the level of pollution as the flow progressed through Vienna.

SUMMARY

A sanitary survey of pollution in surface water drains and storm sewers in the Village of Vienna was made on May 6th, 1964.

Of five such drains investigated the laboratory analyses of two drains indicated the presence of gross pollution.

The cause of pollution is considered to be the discharge of inadequately treated sanitary sewage and other domestic wastes from private properties.

It is suspected that some septic tank systems are not operating satisfactorily, in that adequate field-tile disposal areas are not being employed, and that direct private sewer connections are being made from septic tank overflows into the surface water drains. Such practices are contributing to the discharge of inadequately treated wastes into the Otter Creek watercourse.

RECOMMENDATION

1. All septic tank systems should be complete with adequate field-tile disposal areas.

2. Private drains through which inadequately treated wastes are being discharged, should be located and disconnected.

All of which is respectfully submitted,

District Engineer C.E. McIntyre
C.E. McIntyre

Approved by K.H. Sharpe
K.H. Sharpe, Director.

elb

## TABLE I

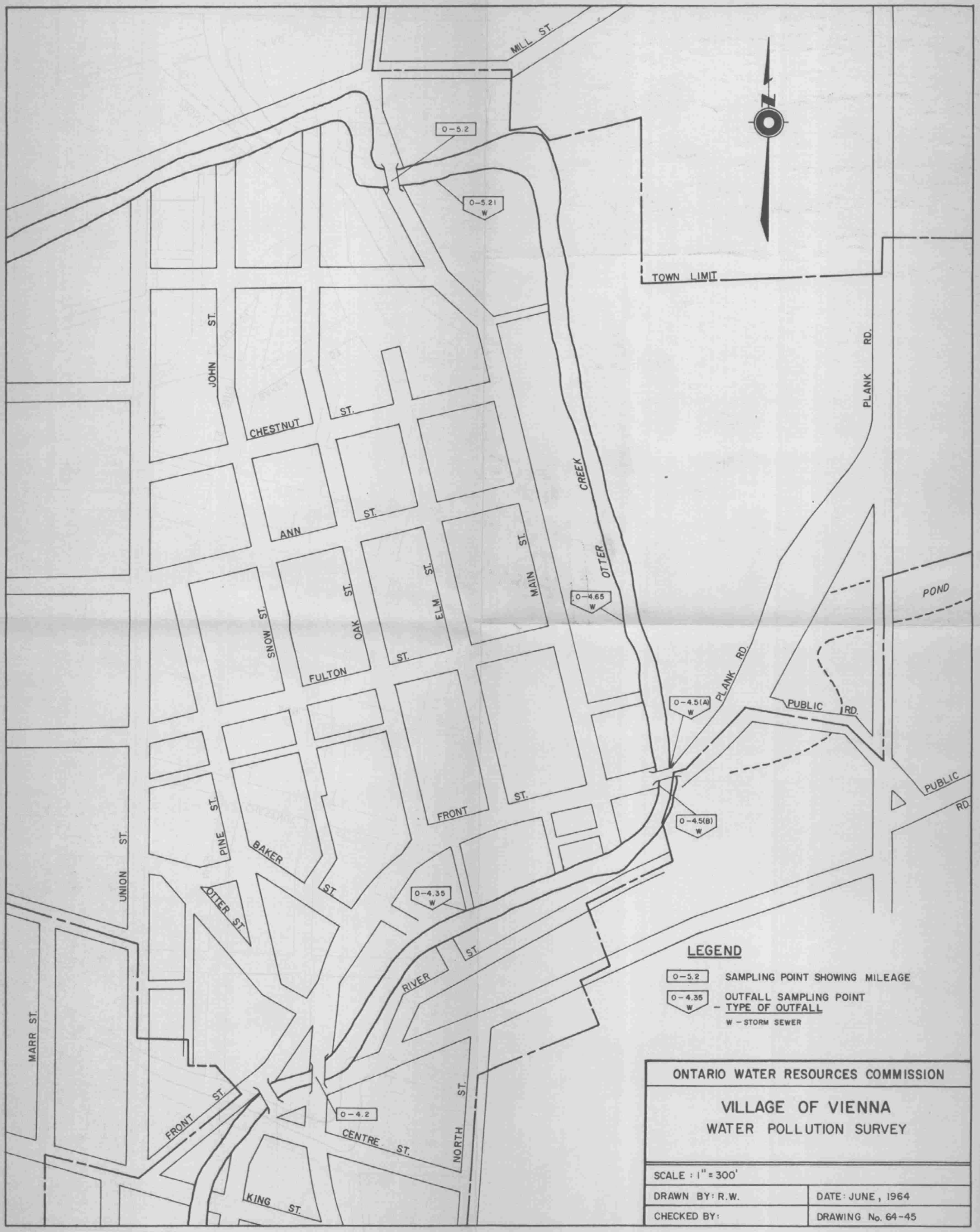
### SURFACE WATER TRENDS

| Mileage Point Number | Location of Outfall | 5-Day BOD (ppm) | SOLIDS Total (ppm) | SOLIDS Susp. (ppm) | SOLIDS Diss. (ppm) | Anionic Detergents as ABS (ppm) | Coliforms per 100 ml Membrane Filter |
|---|---|---|---|---|---|---|---|
| 0 5.21 | Drain from Chestnut St. Area Outfall N.West of Dump Site. | 0.9 | 504 | 2 | 502 | 0.0 | 300 |
| 0 4.65 | Fulton St. Drain. | 1.6 | 536 | 4 | 532 | 0.2 | 11,000 |
| 0 4.5(A) | North-East Corner of Front St. Bridge (Hwy. No. 19). | 1.1 | 716 | 1 | 715 | Trace | 34,000 |
| 0 4.5(B) | South West Corner of Bridge (Hwy. No. 19). | 17.0 | 678 | 23 | 655 | 1.8 | 36,000,000 |
| 0 4.35 | North of Central Pipe Line Property. | 12.0 | 654 | 17 | 637 | 1.4 | 78,000 |

## TABLE 2

### BIG OTTER CREEK

| Mileage Point Number | Location of Sampling Point | 5-Day BOD (ppm) | Total (ppm) | Susp. (ppm) | Diss. (ppm) | Anionic Detergents as ABS (ppm) | Coliforms per 100 ml Membrane Filter |
|---|---|---|---|---|---|---|---|
| 0 5.2 | Upstream from Vienna | 1.8 | 460 | 72 | 388 | Trace | 510 |
| 0 4.2 | Downstream from Vienna | 2.0 | 446 | 66 | 380 | Trace | 5,000 |


MILL ST.
0-5.2
0-5.21 W
TOWN LIMIT
PLANK RD.
JOHN ST.
CHESTNUT ST.
ANN ST.
SNOW ST.
OAK ST.
ELM ST.
MAIN ST.
FULTON ST.
CREEK
OTTER
0-4.65 W
POND
PLANK RD.
0-4.5(A) W
PUBLIC RD.
PUBLIC RD.
FRONT ST.
0-4.5(B) W
UNION ST.
PINE ST.
BAKER ST.
OTTER ST.
0-4.35 W
RIVER
ST
MARR ST.
FRONT ST.
0-4.2
CENTRE ST.
NORTH ST.
KING ST.
LEGEND
0-5.2 SAMPLING POINT SHOWING MILEAGE
0-4.35 W – OUTFALL SAMPLING POINT – TYPE OF OUTFALL
W – STORM SEWER
ONTARIO WATER RESOURCES COMMISSION
VILLAGE OF VIENNA
WATER POLLUTION SURVEY
SCALE : 1" = 300'
DRAWN BY: R.W.
DATE: JUNE, 1964
CHECKED BY:
DRAWING No. 64-45

OLDER NO. 436 SC

SE À DOSSIER NO. 436 CD